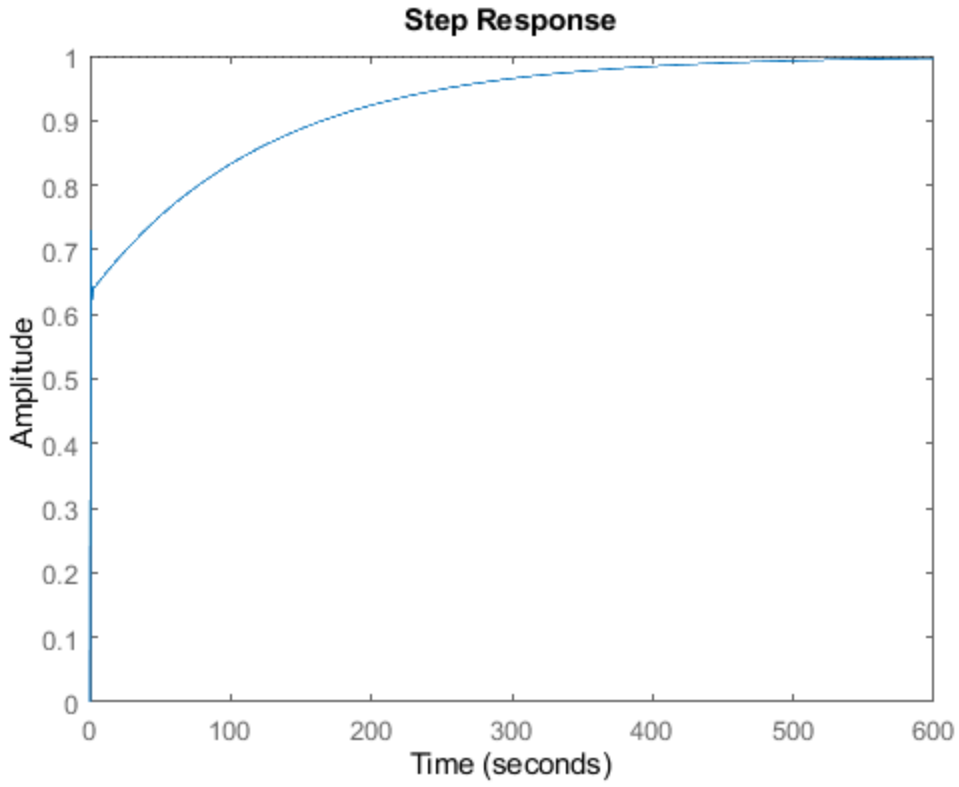
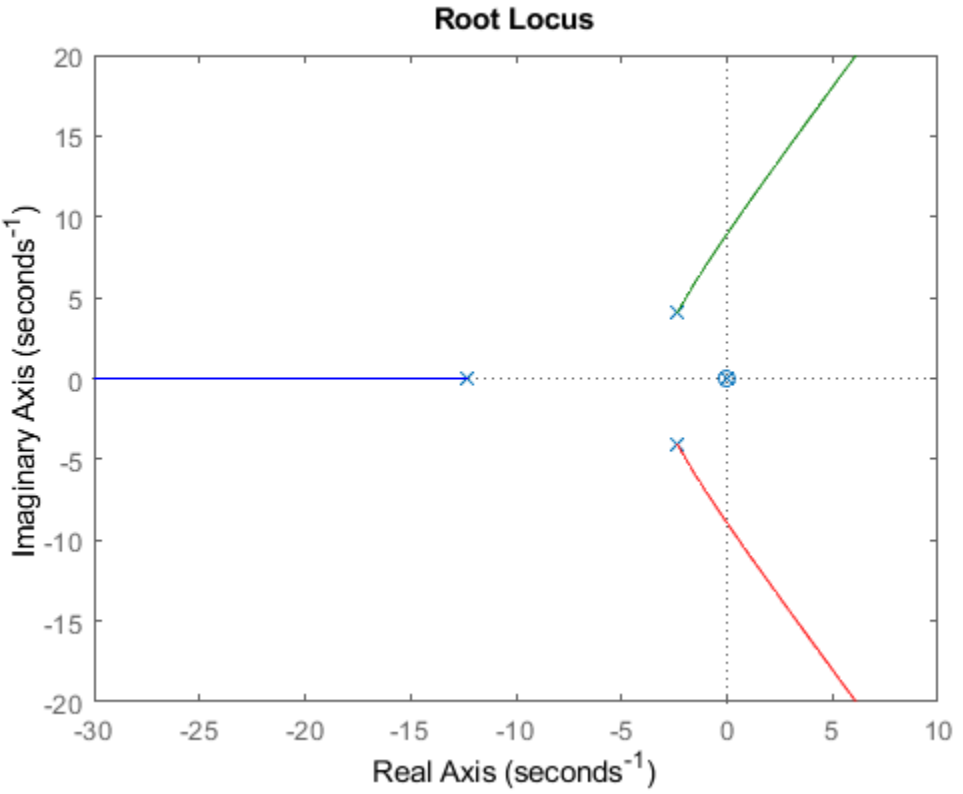
```
clear
clc
close all

%G=tf([1],[1,17,80,100]);

%root locus of uncompensated
% rlocus(G);

k = 172;
z = 0.0124;

G_numerator = [k k*z];
G_denominator = [1 17 80 272 2.133]

G = tf(G_numerator,G_denominator)
figure
stepplot(G)
figure
rlocus(G)
```

```
G_denominator =

    1.0000   17.0000   80.0000  272.0000    2.1330


G =

              172 s + 2.133
  -------------------------------------
  s^4 + 17 s^3 + 80 s^2 + 272 s + 2.133

Continuous-time transfer function.
<a href="matlab:ltipack.util.ModelPropertyDisplay.getInstance.show">Model
 Properties</a>
```


Step Response
Amplitude
Time (seconds)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
100
200
300
400
500
600


Root Locus
Imaginary Axis (seconds^{-1})
Real Axis (seconds^{-1})
20
15
10
5
0
-5
-10
-15
-20
-30
-25
-20
-15
-10
-5
0
5
10

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